CHAPTER II

REVIEW OF LITERATURE

Since the outbreak of international debt crisis in August 1982, there has been continuous outpouring of writings on the role of external debt in the development process and the problems associated with it. However it was IBRD who started undertaking studies on external debt and growth since mid-fifties. There are various theoretical issues in external debt and its servicing. The objective here is to review the approaches adopted by various studies and their main findings. This studies can be classified as follows:

i) External Debt and Economic Growth
ii) Causes of External Debt Accumulation
iii) Credit worthiness
iv) Strategy of External Debt Management

I

EXTERNAL DEBT AND ECONOMIC GROWTH

The external debt of various developing countries increase as they tried to achieve a higher growth rate. These countries started facing difficulties of the burden of debt instead of achievement self sustained growth. The analysts have therefore tried to examine the relationship between inflow of foreign financial resources and economic growth. The review of various aspects of accumulation of debt and economic growth is as follows:

(A) FOREIGN AID & ECONOMIC GROWTH:

Development theorists for example Nurkse, Rosenstein, Rodan, Lewis (Balanced Growth Theories), Hirschman (Unbalanced Growth Theories) gave special role to capital in the process of transformation of
the LDC's to attain higher level of economic growth. In developing economies, the gap between the available and required amount of investment was taken as the major constraint to economic growth. Until 1950, capital was assumed to be major constraint in the process of industrialisation but since early 1950's economists consider a particular type of capital shortage i.e. foreign exchange. Exponents of the foreign exchange constraint theory assume that export earnings of the developing countries are not enough to meet import requirements and there is a fixed relationship between the capital goods and inputs to be imported and the size of the domestic output, determined purely by technological factors.

The growth-cum-debt models discussed earlier considered savings as constraint, whereas foreign exchange gap theory considers foreign exchange as a constraint to process of economic growth. The two gap theory unified there into a single theory. H.B. Chenery and M. Bruno, McKinnon, Strout and H.B. Chenery are among the propounders of the theory.² According to this theory whenever there is a saving gap, growth is constrained by low availability of saving then foreign aid by supplementing the domestic savings may relax this constraint. On the other hand, if there is a foreign exchange gap i.e. growth is constrained by low availability of foreign exchange, the foreign assistance may relieve the same.

(B) THEORETICAL STUDIES :-

Since the external assistance received by the developing countries are generally in the form of loans, the growth process is accompanied by accumulation of debt. Thus, in many development studies efforts have been made to correlate the process of economic growth of the countries with external debt. Economists have propounded models of economic growth by way of various stages and elaborated different levels of debt in these stages of economic growth. These studies³ include Alter,
Avramovic, Ohilin, King, De Vries, Solomon, Nowzad, World Bank and others. The main thrust of these studies is how external assistance helps the country to enter the continuously rising upward curve of economic growth and loans have been repaid after earning interest throughout the period of its employment in the borrowing country. The literature on debt financed economic development pictures the process as a race between two variables growing at compound rates: debt and income. Debt is generated by the gap between domestic savings and investment which can increase in absolute terms over time. As the gap widens debt accumulates and the country must borrow increasing amounts just to maintain a constant flow of net imports. It must also borrow to refinance maturing debt obligations. Income in turn, grows as a result of the investment process. The capacity to service debt depends fundamentally on the continuing growth of output which makes it feasible ultimately to close and then reverse the gap between gross domestic savings and investment. However, attention has focussed on cases where this transition does not take place and where debt continues to grow indefinitely.

Avramovic\(^4\) have suggested that the economy may not leave the first stage i.e. the stage in which its debt continuously tend to increase in two conditions:

1) If the rate of return on investment is lower than the rate of interest on borrowed capital.

2) The marginal savings rate is low.

Solomon\(^5\) used capital output ratio, average saving rate, growth rate of GDP and interest rates and concluded that debt-output ratio will reach a finite limit only when the target growth rate is greater than real interest rate. In his analysis, Solomon assumed the marginal saving rate to be
equal to average rate of saving which is not justified because marginal saving rate increases with the rise in income.

De Vries put these conditions of continuously increasing debt as when the interest on debt increases faster than savings available to repay debt, it may lead to explosive debt situation.

In a study conducted by World Bank, an attempt was made to identify the stages of developing countries and it has been established that a small group of advanced countries moved from early stages to later stages between 1950 and 1975. But most of the oil importing countries remained in the early stages even in the eighties. The study also found that due to external shocks of seventies and eighties, countries departed from the path as in the latter half of the 70's many developing countries thought to be in mature stages reverted to the early stages.

These models have limited applicability because savings are thought to be only constraining factor in economic growth. Therefore, the models emphasize on income and savings as the real resources which are required to pay the debt assuming that exports are rising automatically with the process of economic growth.

Amit Bhaduri emphasized the role of trade in self-reliant economic growth. In his opinion even if a country has a high saving propensity and high productivity of domestic investment so that the growth of output exceeds the interest rates, it cannot achieve self-reliant growth so long as its marginal propensity to import is higher than its marginal propensity to export even by a margin that is sufficient to cover interest.

Selowsky and Vander Tak (1986) presented alternative solutions to debt problems. In their opinion, the heavily indebted countries must generate significant trade and saving surpluses. There may be two ways to achieve these surpluses. The first way is through contractive measures
with lower imports and investment. The second one is through increases in exports and savings. Former way signifies the quick but austerity measures and being at a high cost in terms of foregone consumption and output is not an acceptable solution economically, socially or politically. The latter way signifies the time-consuming and cooperative measures requiring new financing on the part of the creditors until adjustment measures take effect and improved domestic performance on the part of debtor country. Although, this approach got approved officially in 1985 in Baker Plan. But besides all these facts, conditions for sustained growth could not be restored in some of the highly indebted countries. The large debts have been supposed to come in the way of growth. Sachs (1987) termed this situation as debt overhang. In World Economic Outlook (April 1989) situation of debt overhang is described “where the contractual value of the country’s liabilities exceeds its expected debt servicing capacity”. (p.53). In World Economic Outlook (October 1989) this situation was simply referred to as “a large discrepancy between debt servicing capacity and debt servicing obligations. It has been realised in the same issue that debt overhang could act as a disincentive for policy reforms, as gains from improvements in a country’s debt servicing capacity might be perceived as accruing largely to foreign creditors. (World Economic Outlook 1989, pp.44-45). Therefore, external debt reaching unmanageable levels becomes deterring factor in economic growth through creating an important obstacle to investment and external financing.

(C) EMPIRICAL STUDIES ON EXTERNAL DEBT AND ECONOMIC GROWTH

An empirical investigation has been made in the World Development Report in which borrowings are related to the growth of
GDP and investment. The positive relationship between changes in the debt to GDP ratio and investment is statistically significant in 1965-72 and 1973-78 period, but not in the 1979-83 period. The relationship between debt to GDP and growth was found to be complex. The relationship between changes in the debt to GDP ratio and economic growth is positive but not significant in the 1965-72 and 1973-78 period for South Asia. In other countries, mainly in Africa, substantial capital inflows helped to raise investment rates, but the investment themselves were often inefficient. Nonetheless, countries, like India, Indonesia and Korea achieved moderate or even very high growth rates without raising their borrowing rates. Finally, in 1979-83, the relationship between changes in debt to GDP growth and growth of GDP was negative. In an environment of rising real interest rates and contracting world economic, output increased borrowing no longer translated into higher growth. Again, however, the experience was not uniform for all the countries. Malaysia for example, borrowed heavily but also achieved impressive growth. S again, positive relationship has not been confirmed and causes of such a relationship have been found in the uses of these flows.

In an another study conducted by IMF in the 'World Economic Outlook', GDP growth rates and investment/GDP ratios are compared for two periods 1982-88 and 1976-81 for selected developing countries, some of which to be without recent debt servicing problems and others to be the member of the group of 15 heavily indebted countries, to compare the position of two groups of countries. The study found that growth-performance in the period since 1982 was considerably weaker than in the previous six-year period (1976-81), particularly among the 15 heavily indebted countries. It is also recognized there in the same issue of the World Economic Outlook that it is not possible to infer from such a simple comparison of the variables whether the poor performance of
investment and growth have caused the debt problems or whether the build up of external debt itself has reduced incentives to invest which has, in turn hindered economic growth. It has been found crucial to determine whether the decline in investments is caused by the debt burden or by other factors like high domestic interest rates and weak capital inflows, etc. It has been stated there “if the drop in investment has been the result of weak capital inflows rather than of a debt overhang problem, a reduction in the stock of debt without a large change in current net capital flows would not be expected to increase investment greatly, since a debt reduction would not increase the supply of foreign savings to the debtor country or reduce domestic real interest rates” Further, “macroeconomic mismanagement and lack of confidence in government policies may have led to poor investment, low growth and debt servicing problem in certain highly indebted countries”\textsuperscript{15}.

Pushpa Kumari\textsuperscript{16} found a significant negative relationship between the income growth and net transfers for developing countries as a whole over the period (1970-89) and during the first half of years i.e. 1970-79. In case of middle income countries the net transfers had positive effect on income growth for the period 1970-89. It means that net transfers may increase the rate of income growth by relieving the constraint on economic growth put by strategic imports. In the same study\textsuperscript{17} South Asia which consists of India, Nepal, Bangladesh, Pakistan, Sri Lanka income growth was positively related with net transfers for the period 1970-79. Though savings were negatively correlated with the net transfers for the period 1970-79. The causes were that this region comprising all of the poor countries had remained dependent primarily on the aid flows and these countries were able to increase domestic savings from the late 60’s to finance higher levels of investment reducing in relative terms their need of foreign capital\textsuperscript{18}. During 1980’s though net
transfer were positively related with income growth the results were not significant. The study concluded that in South Asia the low dependency on debt flows relative to size of the economy and domestic effort to utilize these resources made it a successful case.

(D) EMPIRICAL STUDIES ON DOMESTIC SAVINGS AND FOREIGN ASSISTANCE IN DEVELOPING COUNTRIES

The macroeconomic effects of aid on development in less developed countries has largely been analysed in the terms of Harrod-Domar growth model. This model postulates that rate of growth of output is a function of savings and incremental capital-output ratio. In the functional form \( g = \frac{s}{v} \). Foreign aid acts as a supplement to domestic savings and helps in accelerating development of the country. Thus, the increase in income would raise the savings rate, as it is believed that marginal propensity to save is greater than the average propensity to save in LDCs. Therefore, as savings rate would increase the higher growth rate would become self-sustaining i.e. the need for foreign assistance would reduce. This is based on two assumptions.

1) Any increase in foreign aid is devoted entirely to raise the rate of the capital accumulation.

2) A reasonable stable incremental capital output ratio.

This positive relationship between foreign aid and domestic savings have been attacked in different studies. Griffin and Enos\(^{19}\) presented their results from cross-section data of 32 developing countries for the years 1962-64 and concluded that every unit of inflow of foreign aid led to a rise of 75% in consumption and only 25% in investment.
Gupta used the 50 countries of Chennery and Strout study and concluded that the relationship between foreign capital and domestic savings is positive but insignificant. Though he got a positive relationship, the coefficient was not significantly different from zero. Thus, it appeared that foreign capital inflows had virtually no effect on domestic savings in the LDCs. Later, he added few more countries and got negative relationship between foreign aid and domestic savings. Thus, he clearly brought out the limitations of cross sectional studies. In his opinion, the results might change with the addition or removal of few countries from the sample.

Thomas Weisskopf pooled data for 44 countries and included income and exports as additional variables. In his opinion, the results obtained by Griffin and others were suggestive but not conclusive (p. 26). He brought out the limitations of the earlier studies where authors failed to exclude from regressions countries for which there was a net outflow of capital where the flow of capital is outward and would expect the causality to run from domestic savings to the capital flow. Secondly, he opines that authors did not address themselves to the question whether the level of domestic savings observed in each country reflected an ex-ante behavioural function or merely an expost accounting relationship. He concluded that negative impact of foreign aid on domestic savings applied to ex-ante savings and not to the expost savings.

The assumptions of two-gap theory underwent attacks from Griffin and Enos, Thomas Weisskopf, Anisur Rahman, etc. They are of the view that an increase in aid and other foreign capital inflows reduce domestic savings and are used in part to increase consumption. Some of the important reasons what they state are:

i) private entrepreneurs finding loans available abroad, need not restrict their own consumption.
ii) Governments finding abundant resources abroad, expand their consumption too and refrain from raising taxes\textsuperscript{22}.

Papanek\textsuperscript{23} has made two differences over the earlier studies. The first is the foreign capital inflows have been disaggregated into their principal components like aid, foreign private investment and other financial flows on the argument that their effects need necessarily be the same. Therefore, their effect on economic growth has been estimated separately. Secondly, he treated savings as an independent variable along with foreign capital in explaining growth. Papanek estimated the model \( \text{GDP} = f (\text{Aid, Foreign Private Investment, Savings, other flows}) \) where independent variables were taken as percentages of GDP. He admitted that his cross-country analysis suffers from all defects of cross-country analysis. From his cross-sectional study covering data from 1950’s for 34 countries and data from 1960’s for 51 countries confirmed the negative relationship between foreign aid and domestic savings. However, he found that correlation between foreign private investment, other foreign inflows and savings was non-significant. Thus, he casted some doubts on the notion that domestic savings respond negatively to the size of total foreign inflows. Using his cross-country analysis, he found a positive relationship between aid and economic growth for the 1950’s and 1960’s.

Mosley\textsuperscript{24} adopted the Papanek’s model of economic growth using a different methodology from that of Papanek on the basis of two grounds.

1) none of the estimated equations offers any kind of lag structure relating to the independent variables.

2) He questioned Papanek’s use of single equation model using ordinary least squares. In his opinion, this method is inappropriate if the right hand side of the equation contains variables which are endogenous to the process being examined.
Mosley, therefore, used a lagged response of GNP to aid and a two-stage least squares regression analysis. He tested the relationship for the seventies and eighties. He found that the overall positive effect of aid on growth estimated by Papanek for the 1960’s gets vanished in 1970’s. He took a sample of 83 less developed countries found a weak and insignificant but negative correlation between aid and growth. He found a strong and significant negative relationship between aid and domestic savings. His conclusions on causality are similar to those of Papanek’s that the negative relationship between aid and savings are more likely to be little more than a reflection of the fact that the poorest countries attract the most aid in proportion to their income and that the poorest countries save least.

Kharas maintained the Harrod-Domar production framework but focussed on the situation in which foreign borrowing is carried out by the Government to assist in financing domestic expenditure plans. The Government’s taxing powers can be constrained by institutional factors. The benefits of investment projects accrue to the private sector since it is assumed that government invests in infrastructural development. Now debt to be sustainable, it is necessary that the tax base expand quickly enough to allow the government to service the debt.

Katz constructed a one-sector model with capital goods imports. He explained how fiscal constraints and low savings behaviour can be source of debt problem especially when terms of trade deteriorate.

McDonald mentioned that one should not neglect the role of external finance in achieving a more efficient intertemporal allocation of consumption. He said that if all increase in inflows of foreign aid is invested, it gives rise to higher potential consumption in the future but the
current consumption remains unchanged. It would seem appropriate that some of this enhanced future should be brought forward in time, this will reduce current domestic savings.

Interestingly, in another study Mosley with Hudson and Horrell calculating the regression equation for 81 countries found it impossible to establish any statistically significant correlation between aid and growth of income. However, he in accordance with the objective of his study establishes that the public sector has been main factor for the non-optimal use of aid.

Saeid Madhavi in his empirical work tried to investigate the effect of aid and non-aid flows on composition of aggregate expenditures in a sample of developing countries. A system of seemingly unrelated equations are specified in which average annual relative shares of consumption, government spending, private investment, exports and imports in GDP over the period 1981-85 (C/GDP, G/GDP, I/GDP, X/GDP, M/GDP respectively) were regressed among other variables, on measures of aid and other non-aid in flows in the 1970’s. Results are obtained on the basis of regression analysis from a sample of 51 LDC’s (the full sample) and sub-samples. The study has found aid to be positively and significantly correlated with both consumption and government spending stressing pro-consumption bias of aid. On the other hand OFLOW has a significant depressing effect on C/GDP in the full sample, but it does not raise G/GDP significantly. The effect of AID on I/GDP was consistently insignificant regardless of the sample used. In none of the samples aid seems to appear promoting exports. Moreover, imports are also not significantly encouraged in full sample. On the basis of these results, he concluded that though aid is ineffective in promoting growth this weak effect is accompanied by strong pro-consumption and pro-government spending bias.
Pack and Pack\textsuperscript{31} instead of concentrating on aid and savings relationship have analysed whether foreign assistance provided for specific categories of expenditure is shifted among them contrary to the wishes of donors. It also considered whether aid reduces the tax efforts of recipient government. The study is an econometric study and presents results for Dominican Republic which shows that the fungibility of aid has resulted in a thwarting of the intentions of donors. The earlier studies neglected the budgeting issue namely, whether the targeting of aid to a particular project or sector is inevitably undermined by the inherent fungibility of aid funds. The implication of fungibility for each of the major efforts to understand the aid process is considerable.

1) Savings may be reduced if current government expenditure are increased or taxes are reduced undermining the view of the two gap model of aid as a supplement to savings.

2) A diversion of aid to low productivity expenditures may reduce its contribution to GNP growth.

In their opinion, the shift of funds away from development expenditures may account for the result in the cross-country analysis that aid contributes little to GNP growth. Though they admitted that it is inappropriate to generalise for LDCs in common.

Empirical evidence on the positive relationship between domestic savings and aid has been scarce and patchy. Bowles\textsuperscript{32} reject the crowding out effect of domestic savings by foreign aid. He criticized the results obtained by Griffin and Papanek and claimed that the negative correlation between aid and domestic savings cannot guarantee the existence of causality between these variables. Bowles used time series data to investigate causal relationships and concluded that causal relationships are not universal and it is suggested that in those countries where they do
hold the direction of causality may depend upon the proportions of aid from bilateral and multilateral sources.

Suggesting a tentative hypothesis, Bowles mentioned that those countries which receive the highest proportion of multilateral aid to total aid are more likely to be appearing with the $S \rightarrow A$ category that is more likely to have their aid inflows determined by their saving behaviour than vice-versa. Khan and Hoshino\textsuperscript{33} examined the impact of foreign aid on the behaviour of the recipient governments. They took the sample of LDCs in South and South-East Asia, namely, India, Sri Lanka, Bangladesh, Pakistan, Malaysia and study their response to foreign aid received. The results confirm the hypothesis that foreign aid affects both the expenditure and the revenue side of the recipient government’s budget. On the consumption side, generally foreign aid is treated as an increase in income and give the positive income elasticity in the government sector, there is an increase in consumption. The marginal propensity to consume out of foreign aid is less than one. Therefore, some public investment is also financed out of aid money. Though they did not find any differences between the aid given by multilateral and bilateral sources, they found that both loans and grants are used for consumption as well as investment purposes. But “ceteris paribus 85 cents out of a dollar of loan received goes to investment as opposed to 32 cents of grants”\textsuperscript{34}. This study was different because though others like Mosley, Papanek showed that foreign aid is negatively related to domestic savings, the effect of foreign aid on intermediate policy variables such as public investment, government consumption and taxation was not examined.

Interest in the relationship between domestic savings and foreign capital began again in the nineties in the backdrop of a sharp and significant surge in global financial flows particularly to the developing
economies in Latin America and East Asian Economies. To name a few, the studies are cross-sectional in nature involving developing economies for instance Edwards, Held and Uthof, Schmidt-Hebbel and Serven. Results emerging from these studies strongly validate the crowding out effect of domestic savings by foreign capital flows. Edwards found one percent rise in foreign capital inflows to have depressed domestic savings to the extent of 0.5%. Schmidt-Hebbel and Serven found that an increase of 1% in foreign inflows found to have reduced domestic savings by 20%. Results emerging from this study strongly validate the crowding out effect of domestic savings by foreign capital flows.

II

STUDIES ON CAUSES OF EXTERNAL DEBT ACCUMULATION

There is plenty of literature on the factors that led to the international debt crisis. These studies focused on factors that led to accumulation of debt. The economists have explained the debt crisis by focusing on current account deficit. In the opinion of a few economists the cause of current account deficit are domestic in nature like inappropriate domestic policies followed, resulting into large government deficit whereas others are of the opinion that external factors like declining terms of trade, high interest rates, recession in industrial countries could be cause of current account deficit in the developing countries. The economists who focused on Latin American countries have emphasised on the interaction of domestic policy mistakes and global macroeconomic developments. The views thus can be classified into three groups:

i) those which emphasis on the role of external factors,

ii) those who identified the domestic factors
iii) those who emphasis on the combination of both factors, that is, external and internal on the increase in external debt.

(A) EXTERNAL FACTORS

Cline, while recognizing the importance of domestic factors such as overvalued exchange rate and domestic interest rates which led to capital flight found it difficult to believe that more than 30 developing countries simultaneously went on a binge of fiscal irresponsibility. He reiterated that the similar and contemporaneous balance of payment problems was the result of a common external source, namely, economic disruption. In his opinion, external shock eroded export earnings and tax revenues thereby contributes to fiscal deficits.

Guttenmag and Herring opine that most of the explanations of debt servicing problems of developing countries emphasise two things, I) imprudent lending, ii) bad luck.

Bad luck exacerbated the situation for imprudent borrowers and caused problems for the countries that might otherwise have had no difficulties servicing their debt. They blamed excesses in the commercial banking system and inadequacies of prudential and supervisory regulations for the debt crisis. In their opinion, imprudent borrowing is not possible without imprudent lending. The study stressed that commercial banks continued to lend in support of unsound economic policies long after the residents of the borrowing countries demonstrably lost confidence in their government policies. The result was that a substantial amount of bank lending was used to finance capital flight from the borrowing country.

G.C. da Costa while explaining the debt crisis emphasised on two forces which were at work for increasing the debt burden of developing countries. Firstly, since the industrialized countries followed contractionary monetary and expansionary fiscal policy led to rise in real
interest rates. Secondly, the world trade depressed and there was a steep decline in commodity prices.

Deshpande\textsuperscript{39} while explaining the origin of the crisis accepted the reasons mentioned by GC da Costa. In addition to these forces, the author explained the debt build up from the supply side i.e. due to recycling of the surpluses of the OPEC and further because of loan pushing by commercial banks.

\textbf{(B) INTERNAL FACTORS}

Dornbusch\textsuperscript{40} asserted that the external factors like oil price shock, interest rates and world recession would not have made impact if the domestic factors were not at work. In his opinion, overvalued exchange rates and large budget deficits in developing countries are related phenomena and are often important causes of excessive foreign borrowing. He studied three episodes Chile, Argentina and Brazil. A massive deterioration of the current account, a consequence of loose fiscal policy and a large increase in interest payments were, in his opinion, the major source of Brazil’s increase in external debt. In contrast to Brazil, in case of Argentina foreign debt was private capital flight (facilitated by the absence of capital account restrictions). The openness of the Argentina’s capital market facilitated massive private outflows as the real exchange rate became increasingly overvalued.

Greene\textsuperscript{41} while discussing the external debt problem of Sub-Saharan Africa traced the problem largely to government actions, in particular the accumulation of external debt for development projects designed to improve industry and infrastructure rather than to boost export production directly. Many of the countries opted for major developmental programmes and highly expansionary fiscal policies during the commodity boom years of the late seventies acquiring external debt as spending increases outpaced the rise in tax receipts. Growing
fiscal deficits and surging demand for private credit led to rapid monetary expansion which in turn led to higher inflation and overvaluation in exchange rates. This inhibited exports and promoted imports.

Easterly and Hebbel\textsuperscript{42} found a strong evidence that over the medium term, money financing of the deficit leads to higher inflation while debt financing leads to higher real interest rates or increased repression of financial markets with the fiscal gains coming at increasing unfavorable terms. They emphasised that though a lot of literature can be found on strong link between fiscal deficit and current account deficit in financially open economies. But there was no evidence which links public deficits with external deficits and appreciation of the real exchange rate (pp.212-213). They found a strong evidence that fiscal deficits spill over into external deficits leading to appreciation of the real exchange rate. Fiscal deficit and growth are self-reinforcing regarding good fiscal management preserves access to foreign lending and avoids the crowding out of private investment while growth stabilizes the budget and improves the fiscal position. Thus, in their opinion a vicious circle of growth and good fiscal management is one of the strongest arguments for a policy of low and stable fiscal deficits.

(C) COMBINATION OF INTERNAL & EXTERNAL FACTORS

Khan and Knight opine that the external as well as internal factors were responsible for the balance of payments problems. In external factors, a substantial fluctuations in the world market prices of primary commodities, a sharp increase in oil prices, a slowdown of economic activity in industrial countries, a rise in real interest rates were major contributors to serious deterioration in the current account positions of non-oil developing countries.\textsuperscript{43} In many non-oil developing countries, inflationary demand-management policies combined with rigid exchange
rate policies and restrictions on trade and payments resulted in domestic demand pressures and cumulative losses in international competitiveness that also gave rise to current account and overall balance of payments difficulty. The most important explanatory variable was the terms of trade while the two least important factors were growth in industrial countries and the time trend (p. 640).

Sachs emphasized that domestic policies chosen were decisive in determining which countries faced the debt trap problem. In his opinion, the debt crisis of the early eighties was triggered off by a combination of global economic events and domestic developments in the debtor countries. Due to external economic events, there was simultaneous onset of crisis in more than 40 developing countries. Sachs emphasised that domestic and national developments were responsible for the success or failure of debtor countries in surmounting external shocks without any emergency of rescheduling.

Weisner emphasised that no other set of factors explained more the debt crisis than the fiscal deficits incurred by most of the countries in Latin America. He argued that large fiscal deficit increased demand and created trade deficits both through the direct income effects and through price effect which reduced competitiveness of exports due to inflation. In his opinion, behind the growing fiscal deficit were the strong political pressures for higher spending. As long as external financing was available, it permitted total spending or absorption to exceed domestic income. But as the world recession worsened and as it became evident that exports were not increasing nor the domestic capital formation, capital inflows dropped substantially and the fiscal imbalance became an exchange rate and debt crisis.

Cuddington found that debt ridden countries shared common characteristics such as highly distorted price systems, overvalued
exchange rates and inward oriented trade policies. He also explained that unless a country is running a trade surplus, its external debt tends to grow at this rate or faster, the ratio of debt to exports will rise making the debt burden in countries more severe.

Cuddington and Ashs in another study emphasised that the dramatic worsening of the current account was the major source of the growth of external debt in Dominican Republic. The Dominican Republic debt crisis that emerged in eighties was in part caused by external conditions, in part it was the result of domestic policy choices. Among the domestic factors, a large fiscal imbalances were the most important. They argued that four long-term changes in the domestic economy of Dominican Republic accounted for much of the growth in debt. They were changes in the behaviour of investment and savings in public and private sectors, the erosion of public sector finances, the surge in government consumption, adverse trends in government's revenue raising ability.

There is a broad consensus that emerges from the studies reviewed is that generally on the domestic front the trade deficit, unrealistic exchange rates, unsustainable fiscal deficit were largely instrumental in increasing external debt of developing countries. These were exacerbated by external factors such as oil price hike, increases in international interest rates and a fall in primary commodity prices.

III

CREDITWORTHINESS

The creditworthiness is nothing but perception of lenders about the capacity to repay of a debtor country. At the international level much discussion has focused on determining the economic variable which
should be considered in projecting the performance of borrowing country in servicing the debt liabilities. The empirical literature on creditworthiness does suggest the presence of systematic relationship between macroeconomic variables and the occurrence of debt crisis. Though here are no standard test by which one could judge the severity of the external debt problem of debtor country. However, one often comes across the use of some indicators as rules of thumb for making such judgment. For instance, the level of international reserves equivalent to say about three weeks of imports or debt service ratio of 20% has often served as such rules of thumb in many developing countries.

Frank and Cline\textsuperscript{48} in their pioneering work investigated into the quantitative aspects of default probability using discriminant analysis. The assumption underlying discriminant analysis is that in the total population there exists distinct sub-population and the objective is to construct from sample information a rule that will enable one to distinguish between these sub-populations. Covering the period 1960-68, the data sample contained 145 observations in 26 countries of which 13 were rescheduling cases in eight countries. Their results indicated that the debt service ratio, debt amortisation ratio and ratio of imports to reserves were important in explaining the debt problems in the countries. They focused only on financial indicators which is not reassuring, since the indicators used had little to say about the real side of the economy or the sustainability of policies. Further, in sample record of error was reasonably impressive -- zero Type I errors and 9% Type II errors (Type I error occurs when a rescheduling country is classified as non-rescheduling. Type II error occurs when a non-rescheduling country is classified as a rescheduling). Thus, while in-sample performance might seem quite good, these weaknesses would be of concern in considering out of sample applications.
Dhonte looks at rescheduling experiences in two ways. First, he compared the characteristics of rescheduling countries with those of non-rescheduling ones by taking one indicators approach. His analysis suggests that rescheduling countries were heavily indebted in relation to exports, had large and rising debt service ratio, had large capital inflows in relation to imports and suffered from bunching of maturities. In the second section of his paper, he went beyond one indicator at a time approach and used principal component analysis to investigate the relationship between several economic variables relevant to debt servicing capacity. This is a technique used to condense the amount of information contained in a set of variables that contains in aggregate, a high percentage of the information in the original set but has smaller dimensionality. On the basis of his analysis, he suggested two hypotheses. First, the degree of successful involvement in debt must be suitably in keeping with borrowing conditions. Second, the growth of debt should be kept in line with exports. His approach was criticized for two reasons. Firstly, the hypotheses suggested by him were vague. For example, what is meant by keeping exports in line with debt. The study did not suggest that the two growth rates should be equal. Secondly, he admitted that analysis does not give any indication of how to express quantitatively the hypothesis relating to the level of debt to its terms.

Sargen also used discriminant analysis in accordance with Frank and Cline to examine rescheduling. He broadens the scope of considering some indicators of internal short-run macroeconomic management like rate of inflation, rate of money creation. The findings indicated that reschedulings are disproportionately concentrated among high inflation countries. Frank and Cline and Sargen’s study are not directly comparable since Sargen covers a longer sample period.
Feder and Just\textsuperscript{51} used logit analysis and examined the significance of the indicators previously examined by Frank and Cline and others. The results of the study suggested that in addition to the variables (debt service ratio, debt amortisation ratio, ratio of imports to reserves) export growth rate, per capita income, capital inflows as proportion of debt service payments ratio, appeared to be significant indicators of debt servicing capacity. They pointed out that the use of discriminant analysis though has contributed to the development of the literature in this area, its use is subject to reservations. They further mentioned that use of this methodology implies that a rescheduling country suddenly becomes a "member of another species."

Aliber\textsuperscript{52} argued that the need to reschedule debt payments does not necessarily indicate that country's debt is too large. In his study he argued that debt capacity is determined by return on investment and the terms of external finance.

Feder, Just and Ross\textsuperscript{53} improved upon their earlier results by using more refined data in a logit model. The variables that emerged significant in the study were debt service ratio, foreign exchange reserves to import ratio, the ratio of foreign exchange inflows to debt service payments, the export to GNP ratio and the real per capita GNP to US per capital GNP ratio.

Mcfadden and others\textsuperscript{54} found that demand for new loans increased strongly with a rise in debt service ratio and imports GDP ratio and decreased in relation to rising real GNP per capita. Supply in new loans decreased when there were part repayment problems and increased with rise in debt-export ratio. The study found that the lenders were reluctant to roll over the principal due, thereby creating considerable pressure on liquidity when principal payments were high.
Mettwally used single and simultaneous equations models to test the interaction between debt servicing capacity and rates of growth in exports, domestic savings, domestic absorption, inflow of foreign capital and outstanding foreign debt. The study examines the effect of debt servicing on economic development of six heavily indebted Asian countries, namely, Bangladesh, India, Indonesia, Pakistan, Papua New Guinea and Philippines. The findings suggested that debt servicing had a negative effect on economic growth in each of the sample countries during the period of the study i.e. 1975-1990. The problem was aggravated by the decline in exports and capital flows and by adverse domestic policies which proved to be harmful to domestic savings. The results suggest that improvements in the balance of current accounts, increases in the inflow of private investment and accelerated growth in domestic savings contribute towards reducing the external debt levels. Further, the model shows that high economic growth and high interest margins assist in the attracting private foreign investment (p. 105).

Vasudevan and Prasad used the probability approach to analyze India’s external debt repayment problem similar to Mcfadden and others the study regarded the dependent variable as a dummy variable assuming value one wherever debt service was 20% or above of exports and value zero otherwise. The study suggested that for India, money supply, terms of trade and trade deficit were variables on which the policy maker would have to keep a watch so that appropriate actions could be undertaken to bring about a reduction in the probable occurrence of external debt repayment problems.

Paul and others applied probability model to study the probability of the external debt default viz. in India, Philippines, Brazil, Malaysia and Peru for the time period 1970-90. In case of India, they found that the government expenditure has the negative effect on the probability of
default. The reserves to imports ratio has a significant negative effect on the probability of debt default. The variability of petroleum prices and variability of non-fuel commodity prices have a positive significant effect on the probability to default. But the variability of reserves to imports, variability of terms of trade and variability of trade deficit have a significant negative effect on the probability to default in India. The trade deficit (imports minus exports) has as expected a positive significant effect on the probability of debt default. Money supply is having the significant positive effect on the probability of default. This implies that government deficit expenditure should not be monetised as it will lead to increase in money supply.

Prasad\textsuperscript{58} in another study found monetised deficit as the most important explanatory variable followed by real effective exchange rate where the relationship was inversely proportional. The independent variables for the study were ratio of monetised deficit to GDP, real effective exchange rate, index of primary commodities prices, London Inter Bank offered rate, unit value index for imports of crude oil. The study concluded that during 1971-90 and the sub-period 1981-90 neither internal nor external factors in isolation had any significant impact on debt-export ratio the dependent variable. Thus, a combination of the factors served to highlight the major causes of debt accumulation.

Anjaylenu\textsuperscript{59} constructed and econometric model with a view to discern the macroeconomic linkages between external debt, imports, output and exchange rate. The model with 19 endogenous and 8 exogenous variables was estimated using ordinary least squares method and the collective performance of the model under both static and dynamic conditions was ensured using Guass-Siedel algorithm. Both the mean absolute per cent error and root mean square per cent error of endogenous variables were found to be quite satisfactory. The model was
therefore used for evaluating the impact of certain policy shocks on other endogenous variables. The results show that while a downward adjustment in exchange rate has a favorable impact on current account, it simultaneously, causes a deterioration in the external debt output ratio. External debt is expected to rise by about 0.30 and 0.39 respectively on account of 1% downward adjustment in exchange rate under static and dynamic simulations. Policy simulation experiments also revealed that though import expansion leads to increase in output, it also simultaneously lead to a rise in external debt output ratio. For a 1% rise in imports while the growth in output would be of the order of 0.15% to 0.20% respectively in case of static and dynamic simulations, the corresponding increases in case of external debt would be of the order of 0.41% and 1.01% respectively. The study also suggests that in the long-run exports must pay for imports. The ideal policy stance should form the core of future strategy. The structural adjustment process in India should, therefore, be towards the achievement of significant improvement in exports with simultaneous efforts at stepping up capital efficiency.

IV

STUDIES ON EXTERNAL DEBT MANAGEMENT

The studies reviewed makes evident that developing countries did not devise any early warning system to forecast debt servicing problems in time to take preventive action. External debt management has gained importance in the wake of the serious uncertainties in the international economy and financial markets.

Avramovic mentioned six conditions for successful management of external debt which can be reduced to only one. In his opinion, if a debtor country achieves a high level of investment which yields a high rate of return, the rest will take care of itself. If the rate of return is high,
the plough-back will also be high. If the plough-back is high, the output will grow quickly. If output grows quickly, the balance of payments will tend to show structural strength which will facilitate external debt management.

Lee in his analysis talked about the critical interest rate which was also used by Hayes.\textsuperscript{61} The slower the growth rate, the lower the marginal saving rate and the less productive its capital investment, the lower is the critical interest rate. This ratio identifies the maximum interest rate that can be paid while not increasing the debt ratio. Thus, critical interest rate indicates that level of interest rate that will make the growth rate of external debt equal to the growth rate of GDP.

Lee opines that the decline in the critical interest rate not always imply a deterioration in the debt servicing capacity of a country, if the average interest falls faster than this critical rate, actual debt servicing capacity may be improving.\textsuperscript{62}

Verghese\textsuperscript{63} emphasised that though the level of debt stock and debt service obligations of India were said to be comfortable in terms of many of the conventional ratios, the growth and the dramatic shift in the structural composition of the debt calls for a detailed look at the debt management. He stated that it is prudent to plan debt increase such that neither the growth of debt nor interest rate on debt should persistently exceed the growth of exports or national income. Further, he commented on inadequacy of the conventional debt service ratio. Instead he suggested use of trade deficit as proportion of exports of goods and services ratio for India. In his opinion, changes in this ratio will directly indicate the changes in the gap (trade deficit), the country has already bridged and the gap it has still to bridge before generating a capacity of servicing its debt related obligations. He commented that in case of India, the external resources requirements on account of the persistent trade
deficit has remained very high throughout the period following 1981.

Anagol\textsuperscript{64} brought out the limitations of debt service ratio and suggested that one has to watch some indicators of liquidity if one is to keep the level and composition of debt within liquidity limits of the country. The author suggested some indicators like faltering of net transfers, excessive short-term debt and some key ratio reflecting a spectrum of liquidity pressures arising out of a given level of debt. The study found that all these indicators were worsening on the eve of 1991 crisis.

Prasad\textsuperscript{65} recognizing the need to realistically assess the external debt service obligations in the medium-term projected $11 billion per annum to be serviced during Eighth Plan period. Further, he suggested that to achieve a sustainable external debt position would rest on three basic tenets:

i) the productive use of borrowed funds

ii) implementation of sound macroeconomic policies

iii) prevalence of favorable external environment

In order to avoid a debt trap, the study suggested achievement of strong and sustained growth in exports, turn around in domestic oil production, prudent fiscal and monetary policies, rapid growth in foreign exchange earnings from services and encourage non-debt creating flows such as foreign investment. These suggestions were also made by Malati Anagol.

In an another study, Prasad\textsuperscript{66} argued that there is a need for actively managing external debt by minimising risks arising out of interest and exchange rate variability among other things. In this context, the study explored the scope for the widespread use of derivatives by borrowers in the context of the successful experience of a few heavily indebted countries. In the context of India, the study concluded that the limited
use of derivative instruments has proved fruitful. However, a number of factors, which still hinder the use of derivatives in India, need to be removed to encourage its wider use.

Reddy\textsuperscript{67}, while mentioning the lessons to be learnt from Gulf crisis, stated the following areas:

i) Liberalise current account but keep effective control over capital flows during medium term.

ii) Encourage non-debt creating flows.

iii) Have a conscious limit on the total external commercial borrowings and subject them to specific approvals.

iv) Review the non-resident deposit policy and discourage volatile flows.

v) Cease using public enterprises and financial institutions as conduits to bring in commercial flows to ease pressure on BoP.

The studies reviewed have given conditions for long-run sustainability of debt as given by Avramovic, Jungsoo Lee. The others like Malati Anagol, Prasad, Reddy have given emphasis on maintaining liquidity in BOP.

V

EMPIRICAL STUDIES IN INDIAN CONTEXT

(A) FOREIGN ASSISTANCE & DOMESTIC SAVINGS

Stanley Katz\textsuperscript{68}, used the data on income and savings, investment for the period 1950-61, concluded that aid generated share of savings is insignificant both in terms of increase in savings and the total volume of savings. Using the same methodology of Katz, Pandya\textsuperscript{69} assessed aid contribution for the period 1961-71 and arrived at a conclusion of insignificant contribution of aid to generate savings. He found that of the
total volume of domestic savings, aid generated share of savings was only 0.74%. The studies undertaken by Katz and Pandya do not explain the insignificant relationship that existed between foreign aid and domestic savings.

Pramit Chaudhari at aggregate level concluded that there was no evidence found to prove that aid has had much of an effect on savings ratio. He tried to explain the negative relationships arrived at by others by correlating aid flows with budget surplus on the basis of negative relationship between savings and foreign aid he expected to find that flow of aid either increases the deficit or reduce the surplus. He found that

\[ B = 269.870 - 0.234A \]

for gross aid

\[ R^2 = 0.36 \text{ D.W.} = 1.68 \] (p. 106)

He concluded that aid might have had some effect in reducing the budget deficit. Though the relationship was not a strong one and therefore at aggregate level he concluded that he found no evidence that aid has either reduced the savings ratio or has enabled the government to run a higher budget deficit or a smaller surplus.

Thimmaiah has supported the negative relationship between domestic savings and foreign aid for the period 1960-76. He concluded that foreign aid both in grants and loans discourage domestic savings of the aid recipient country.

Badrinarayan distinguished between gross and net inflow of aid and commented that to identify good relationship between domestic savings and foreign aid, one must consider net foreign aid since this amount only is expected to be productively used. Badrinarayan followed Weiskopf methodology and used simple and multiple regression for the time period 1961-81. The results obtained were:
Based on the above results, he concluded that foreign aid in terms of gross and net aid and domestic savings are negatively related. In both the cases lagged and non-lagged analysis the results are consistent and significant. The effect of loans component of foreign aid on domestic savings is significantly negative. These results were also reinforced even when other explanatory variables of domestic savings like exports and GNP were incorporated into the analysis. At a disaggregated level, the findings of the study show that there is a negative relation between government savings and gross and net inflow of aid. Based on the above results, he argued that the quantum of foreign aid must be reduced to promote self-reliance and to gear up the machinery to mobilise additional resources within the economy.

Paul and Sakthivel\textsuperscript{73} took time series data for the period 1950-2000, culled out from various sources, the series was put to stationarity test. The series became stationary at first difference and subsequently carried out Johansen’s Maximum Likelihood tests for integration of variables. Variables used in the study include gross domestic savings, gross domestic capital formation, gross domestic product at market prices, foreign capital which is measured both in terms of Net Capital Account, Net Foreign Investment, etc. Results from error correction
model suggest that foreign capital is negatively related to domestic savings and found to be significant.

Available empirical evidence for India, with differing time periods, regarding the relationship between domestic savings and foreign assistance brings out conflicting results. Some of the empirical studies show an insignificant contribution of foreign capital to domestic savings whereas few others indicate a negative relationship. Most of the studies essentially regress domestic savings as dependent variable on foreign capital. The other independent variables such as exports, income, private investment are also included. Majority of the studies found negative effect of foreign capital inflow on domestic savings.

(B) EMPIRICAL STUDIES ON DEBT ACCUMULATION IN INDIA

Empirical studies related to India has been on factors affecting current account deficit. The factors affecting are both internal and external in nature.

Ahluwalia\textsuperscript{74} in his analysis tried to determine the relative importance of different elements affecting India’s current account during each of the two oil shocks. The single largest element contributing to the deterioration was the rise in oil prices. Prices of non-oil imports especially in the non-capital goods category also had a relatively large adverse impact on the current account.

Varghese and Varghese\textsuperscript{75} argued that several factors like bunching of repayments of IMF credit, deceleration in the rate of growth of domestic mineral oil production, unfavorable climate for concessional credit, substantial imports of essential commodities due to severe drought condition when clubbed together mixes the consequences with the causes. In their opinion, one must note the close link between trade
deficit and trade policy on the one hand and the growing magnitude of commercial borrowings and the change in the composition of external debt on the other hand. They suggested trade deficit as percentage of exports of goods and services is a better measure of debt servicing capacity to the conventional debt service ratio because increase in exports may be accompanied by the rise in imports.

Anagol assessed the liquidity norms and suggested that the traditional debt service ratio is woefully inadequate to measures liquidity requirements and pressures. The author suggested some signals and watch posts prior to liquidity crisis. They are faltering net transfers, excessive short term debt, and deteriorating debt service ratio. In the aftermath of liquidity crisis, the author suggested some policy prescription like reduction of commercial borrowings, encourage non-debt creating flows, encouraging exports, reducing fiscal deficit, increase domestic savings.

Bajpai concluded that genesis of the liquidity crisis which surfaced in 1991 lies in the large and persistent macroeconomic imbalances that developed over eighties. The root cause of crisis was the large and growing fiscal imbalance. Also because of the dynamic interrelationships between fiscal and trade deficit, the former resulted in large current account deficit in the BOP.

Kannan applied the monetary approach to balance of payments in India for the period 1968-85 and showed that central bank’s credit to government was a significant factor affecting monetary disequilibrium and the latter significantly affected different components of India’s balance of payments. He concluded that to attain sustainable balance of payments position and to reduce its fluctuations, the monetary disequilibrium factor should be controlled either through reducing budget deficit or curtailing central bank financing of budget deficit.
Most of the above mentioned studies have related external debt to economic growth while examining the debt servicing capacity of a debtor country. The developing countries borrow with a view to achieve self reliant growth. But the studies have got varied result for different time periods. Almost all the studies reviewed above while examining the relationship between debt and growth, have emphasised the need for generation of domestic savings in order to meet debt obligation. However, the relationship between domestic savings and foreign inflows is found to be inconclusive in developing economies. Certain studies reviewed above have attempted to identify factors responsible for debt accumulation. Some of the recent studies mainly in the Indian context have used certain ratios like debt / GDP, debt / XGS, debt service / XGS etc. to guage the probability of payments crisis.

The findings of the studies reviewed above would be use full while assessing the debt servicing capacity of India.

JUSTIFICATION OF THE STUDY

It is obvious from the review of literature that some studies are purely theoretical in nature and many studies have been undertaken to examine the debt problem of Third World Countries as a group. There is a need for country specific study on external debt which was pointed out by Avramovic in his famous study on growth and external debt. Any country specific study must be based on an analytical framework to examine the external debt problem of a country.

The growth of debt was high in India during 80’s which subsequently led to liquidity crisis in 1991. The liquidity crisis in BOP reflected debt servicing difficulties in India. In July 1991, India was on the verge of default when India availed of unconventional ways of borrowings in international market by pledging gold worth $ 2 Billions.79
Therefore it becomes desirable to examine & understand the circumstances which led the Indian economy to a situation of default. There are studies which suggest that several countries which were heavy borrowers aboard during the 19th century frequently escaped from the difficulties of massive debt accumulation by defaulting on debt service obligations. For instance, during 80's Mexico, 90's Argentina, Argentina defaulted as early as 1933. However, a default would imply under mining of confidence of foreign creditors in the debtor country. Therefore, a default would result into a denial of loans for the development of the country and the possibility of isolation from the major world centers of finance and commerce. The dangerous of a default are very high as India has been recipient of external loans on a large scale. The liquidity crisis in India, and the probability of default indicates that India debt servicing capacity might not have increased with increase in the India’s external indebtedness. Thus, it becomes necessary examine the debt servicing capacity of India. Moreover, it may be noted that most of the studies reviewed relating to India have examined only one or the other aspect of use of external financial resources. Therefore it is difficult to draw firm conclusion from these studies about the debt servicing capacity of India.

A study on debt servicing capacity of India, a part from other factors should also examine the effect of external financial resources on the growth of domestic savings, improvement in BOP situation and the management of external debt. The presence study makes an attempt in this direction by analysing in detail the debt problem faced by India.
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